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ABSTRACT

The relationship between amounts of state regulation and changes over time in faculty quality, student quality, and external funding success among public Ph.D.-granting universities was examined. Attention was also directed to the possibility that: campus flexibility has the greatest benefit for colleges that are poorly funded; or the possibility that adequately funded colleges are best able to take advantage of flexibility. The analysis was based on 1984, 1985, and 1986 studies by Volkwein of 86 public, doctoral-granting universities in 49 states. States were ranked for the degree of regulation, and three types of regulation were assessed: academic, financial, and personal transactions. Changes in the quality of graduate programs were measured by a 5-year improvement rating, while changes in student quality were measured by comparing 1976 and 1985 Barron's ratings of admissions competitiveness. The results suggest that university effectiveness and quality are relatively unaffected by state regulation. Recent changes in regulatory practices for higher education in Colorado, Connecticut, Idaho, Kentucky, Maryland, Massachusetts, New York, Washington, and Wisconsin are briefly described. (SW)

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MEASURING THE BENEFITS OF UNIVERSITY AUTONOMY FROM STATE REGULATION

A Paper Delivered at the Annual
Meeting of the Association for the
Study of Higher Education

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Abstract

MEASURING THE BENEFITS OF UNIVERSITY AUTONOMY FROM STATE REGULATION

This research examines the relationship between amounts of state regulation and changes over time in faculty quality, student quality, and external funding success among public Ph.D. granting universities. The research then explores the possibility that campus flexibility has the greatest benefit for institutions which are poorly funded, or alternatively, the possibility that adequately funded universities are best able to take advantage of flexibility. The results suggest that University effectiveness and quality are relatively uneffected by state regulation.

THEORETICAL FRAMEWORK

At a time when decentralized management is gaining favor in the business world, many public institutions of higher education and state governments are examining the wisdom of current oversight practices. To what extent should organizational authority be decentralized, and what are the appropriate mechanisms of accountability and control? These questions have become important issues in the 1980s and are under active review by corporations, governments, and multi-campus systems alike.

Contemporary organizational theory stresses the important role of the organization's environment (Aldrich, 1979; Hall, 1982; Pfeffer and Salancik, 1978). If public universities are viewed as complex, loosely-coupled organizations, their regulatory relationships with state governments form a important feature of the external climate within which these institutions pursue their goals.

It is possible, of course, to identify different dimensions of state regulation. Berdahl (1971) drew a distinction between procedural and substantive autonomy. The Carnegie Foundation (1982) and Levy (1980) are among those who have identified three important areas of university autonomy: financial or budgetary, personnel or appointive, and academic.

The Carnegie Commission on Higher Education, in its 1973 report on Governance of Higher Education, concluded that campus autonomy had declined substantially since the end of World War II. In 1976 the Carnegie Foundation for the Advancement of Teaching published a report on The States and Higher Education which identified five major concerns -- two of them were the increasingly centralized control of public higher education and the erosion of campus autonomy.

The 1982 study by the Carnegie Foundation surveyed decision-making practices in each state, pointed out the limitations of government regulation of higher education, and developed a defense of campus self-regulation. Using the strongest language of the various reports, the Foundation reported that state officials "Often fail to reward efficient leaders" (p. 43), and that campus managers, "feel caught in a confusing bureaucratic web that demands accountability, but provides few incentives for responsible decision making." (p. 67) "An ambitious range of bureaucratic oversight generates a workload that government itself cannot handle." (p. 66)

In a study of state government coordination of higher education in 25 states, John Millett and his associates (1984) found that institutional independence in many states is "under substantial threat."

A variety of indicators reflect the increased public control which states have exerted in recent years. If the volume of legislative enactments can be used as a crude indicator, state governments have grown enormously in the statutory authority which they exercise. In the past three decades state legislative enactments have increased from roughly 15,000 to 50,000 annually. While the number of these bills effecting higher education is unknown, Fisher (1986), in a study of four representative states, found that nearly half of the higher education laws were enacted in the most recent two decades. Moreover, 124 laws passed in the most recent decade were classified as "control laws," compared to 82 "flexibility laws."

Within more than a few states, an annual budget request may receive redundant scrutiny by a statewide coordinating board, legislative committees, and executive staff, after it leaves the central system offices. In addition, there are now a myriad of other reporting and oversight mechanisms associated with specific issues such as affirmative action, energy policy, research involving human subjects and warm-blooded animals, radiation safety, student financial aid, and privacy rights, among others. "Taken by itself, any single action may not be unbearably intrusive, but the combined impact of many actions can nearly suffocate an institution." (Carnegie Foundation, 1982, p. 65)

Budgetary and personnel issues appear to lie at the heart of the debate in most states, but the struggle goes beyond financial and bureaucratic matters.There are in higher education deeply held convictions about organizational effectiveness: "Most of us believe that the great colleges and universities have been those that were the least managed." (Atwell, 1985) Most administrators and faculty, as well as the authors of numerous national reports, believe that less regulated universities operate with less administrative cost and with greater effectiveness than do institutions which are treated like state agencies. For example, a 1984 study found that officials at sixty-three of eighty-eight public universities believed that moderate or great savings will result from state deregulation (Volkwein 1984, 1985). The more heavily controlled the campus, the more frequently the predicted cost reduction was characterized as "great."

Table 1 summarizes the recent changes in the states of Colorado, Connecticut, Idaho, Kentucky, Maryland, Massachusetts, New York, Washington, and Wisconsin. Except for the State of Washington, all the changes described in Table 1 are in the direction of deregulation. This suggests that the various Carnegie reports and their recommendations may be having an impact.

While the changes summarized in Table 1 suggest a rather fluid regulatory environment, there are at least three authors who have reported that (with the exception of a handful of states) the dominant features of the regulatory atmosphere for most universities have been in place for decades. (Fisher, 1986; McGuinness, 1986; Volkwein 1984).

Based on their study of the changing relationships between the State of Washington and its public institutions of higher education, Curry and Fischer (1986) developed a conceptual framework for describing the alternative relationships between campus and state. They identified four models: the State Agency Model, the State Controlled Model, the State Aided Model, and the Corporate Model. These four models lie along a continuum from almost complete state control over financial and personnel transactions to almost complete independence.

Table 2 classifies each state according to its financial and academic regulatory practices. On the financial dimension, the author used the data collected in 1983 and applied it to the Curry and Fischer models (Volkwein, 1987). On the academic dimension, Carnegie data are used to divide states into centralized and decentralized groups (Volkwein, 1987b). Seven states

like Massachusetts and West Virginia have fiscal and academic practices which are placed on the more centralized or regulated ends of both continua. At the extreme, these seven states behave in academic matters like European ministries of education, and in financial affairs treat their universities like state agencies. At the other ends of the continua, twelve states like Delaware and Vermont tend more toward decentralized authority in both academic matters and financial transactions, at least as far as public, doctoral-granting universities are concerned. In most respects, these twelve states adopt an approach which resemble a state-aided model, rather than a state-controlled one. Seven other states, like Connecticut and South Carolina, tend to treat their universities financially like state agencies, but adopt a more decentralized approach academically. Conversely six states like Alabama and Utah, have a more state-aided or decentralized approach to fiscal affairs but are more controlling in matters of academic program.

SUMMARY OF WHAT IS KNOWN ABOUT CURRENT REGULATORY PRACTICES

It is possible to draw several conclusions about our knowledge of regulatory practices in higher education. First, there is a consensus that the amount of regulation has grown in the past 40 years (Carnegie reports, Fisher, Millett). Secondly, there is wide variation from state to state in the nature of academic, financial and personnel control practices (Volkwein, 1984, 1985, 1986). Thirdly, many of the more centralized state control practices are widely believed by the higher education community to provide disincentives to good campus management (Mingle, Hyatt & Santiago). Fourth, because of this belief, state regulatory practices are under attack, especially in those states which tend to treat their universities like state agencies (Carnegie reports, McGuinness, Millett). Fifth, the dominant aspects of each university's relationship with state government have been relatively enduring over the past several years, even though there have been relatively minor adjustments in nearly every state. (Fisher, McGuinness, Volkwein) Sixth, the recent changes which have been introduced in a few states tend to be deregulatory in nature. (See Table 1.)

Does heavy regulation tend to increase costs or save the taxpayers money? Most of the literature on the topic is based on informed opinion rather than on empirical research. One exception is a study by Van Alstyne and Coldren (1976) which focused on the administrative expense of mandated Federal programs and found sizeable cost increases on each of the six different types and sizes of campuses which were examined.

The only other empirical study of the impact of regulation on administrative cost was conducted by Volkwein (1984, 1985, 1986a). Controlling for relevant variables he found virtually no differences in administrative expenditures, administrative salaries, nor administrative elaborateness among universities that enjoy a great deal of autonomy and those that are subjected to relatively heavy oversight.

However, his study found that Institutions which are relatively free of state controls are less dependent on state appropriations and raise a larger portion of their funds from non-state sources. He suggested that the impact of regulation is less a matter of administrative cost, but rather a matter of resource deployment, at least at the campus level (1986a).

Do campuses that are relatively unhampered by state regulation demonstrate higher levels of academic quality and success? This question was addressed by Volkwein (1986b) who found that the significant differences in quality and success among universities were explained, for the most part, by differences in state financial support and campus size. Academic and financial autonomy did not make significant, unique contributions to the explained variance in faculty reputational quality, in student quality as rated in various guidebooks, nor in government grants per FTE.

While this study (1986b) in general did not support the popular belief of a strong relationship between autonomy and effectiveness, it did not measure changes over a period of time. Universities are also at different developmental stages with respect to their academic development, their faculty and student quality, and their external funding. Research to date has not taken into account their different "starting points," and has not measured the differential progress of heavily regulated and less heavily regulated campuses.

Some have argued that freedom from academic and financial regulation may be most important under conditions of financial stringency and could be relatively unnecessary if funding is adequate. On the other hand, it may be that only adequately funded campuses can take advantage of what autonomy they enjoy. If this is so, it substantially explains the generally low relationships found thus far between campus flexibility and the measures of efficiency and effectiveness.

RESEARCH OBJECTIVE

This paper then, addresses three research questions which arise from the literature:

1. Do those campuses that are less regulated show greater gains over time in measures of quality and success than campuses which are more heavily regulated?

2. Does flexibility have the greatest benefit for campuses which are poorly funded?

3. Must a campus be adequately funded before it can take advantage of flexibility?

METHODS AND RESULTS

This analysis builds upon the earlier studies by Volkwein (1984, 1985, 1986). Developing measures for each of the three types of university autonomy discussed by Levy (1980) and by the Carnegie Foundation (1982), the Volkwein studies collected data from 86 public, doctoral-granting universities in 49 states and constructed separate scales for each of the three types of regulation. This survey and data collection included information about almost all the items contained in the Curry and Fischer checklist (1986). At any rate, states are ranked along a continuum of practices ranging from states which heavily regulate academic, financial, and personal transactions to states within which universities have a great deal of autonomy.

Research Question #1: Do less regulated campuses make greater progress over time?

This is addressed by examining the differential changes over time in graduate program quality, undergraduate student quality, and external funding for campuses which are heavily regulated versus those which are relatively free of state oversight. Changes in the quality of graduate programs are measured by the five year improvement rating given by respondents to the survey by the Conference Board of Associated Research Councils (Jones, et. al., 1982). An overall improvement score for each university was obtained by summing the standardized ratings for each discipline and then dividing by the number of disciplines.

Changes in student quality are measured by comparing the 1976 and 1985 Barron's ratings. For several years, Barron's has published a rating of admissions competitiveness based upon a composite of freshmen student scores on the SAT and ACT, of high school averages, of ranks in class, and of the proportion of applicants admitted.

Changes in grant funds are measured by comparing the 1980 and 1983 R&D expenditures by each university reported by NSF.

Table 3 shows the correlations among three autonomy measures and three improvement measures. The correlations are uniformly low and insignificant, suggesting that little relationship exists between regulation and effectiveness. Apparently, improvements in quality and funding have little to do with the amount of state regulation exerted on public universities.

This is seen even more clearly in Table 4 which shows the mean improvements for Faculty Quality, U.G. Quality and Research Funding within each of six state regulatory environments. In fact, the greatest improvements in one of the three measures (faculty quality) occurred in the most heavily regulated states, classified as "Centralized, State Agencies." However, universities in these states also exhibited a decline in student quality (from a base of 10) and below average increases in research funding (from a base of 100).

The greatest gains in student quality took place in "Decentralized, State Agencies" and the best research funding performance appeared in "Decentralized, State Controlled" campuses. These findings are not entirely congruent with expectations.

Research Question #2: What about universities receiving below average state support per student? Is autonomy more important for them?

Table 5 shows the significant regression beta weights for seven measures of university effectiveness (non-significant beta weights are omitted for visual clarity). The variables in the regression are ones which conceptually have a relationship to the criterion variables. (See Volkwein, 1986b.) The flexibility measures do not explain a significant amount of the variance in any of the seven regressions. The size of the campus is significantly associated with faculty quality, government grants per faculty, number of faculty articles, the proportion of the faculty who published recently, and the admissions quality of undergraduates. Having a university medical or hospital facility was negatively related to faculty and student quality and positively related to grants per student. For this population of public universities, large size is generally the most important factor in measures of quality and effectiveness and autonomy from state regulation has little importance.

Research Question #3

Are adequately funded campuses best able to take advantage of flexibility? This question is addressed by selecting for regression analysis those campuses receiving the most state support per student.

Table 6 displays results similar to Table 5. Large universities are significantly associated with four of the seven measures, and flexibility generally is unrelated. There are two exceptions. Faculty quality is negatively associated with financial autonomy and private gifts per student are positively associated with academic autonomy. Taking Tables 5 and 6 together, only one out of 28 beta weights for the two flexibility measures was both positive and statistically significant. This is not very strong support for those authors and campus officials who have made claims about the beneficial influences of campus autonomy.

CONCLUSION

The generally low correlations in Table 3 and the absence of expected trends in Table 4 suggest that improvements in quality and funding have very little to do with the amount of state regulation exerted on public universities.

The lack of strong associations for either the best funded nor for the least funded universities in Tables 5 and 6 suggests that campus autonomy makes little contribution to campus quality, neither under conditions of financial stringency, nor under conditions of adequate support.

These findings, combined with the earlier analysis (Volkwein, 1986b) are consistent with the resource-dependence model of organization. A resource dependence model suggests that universities as organizations interact with their environments in order to maximize needed resources. Campus management seeks to acquire these resources in order to accomplish major institutional objectives - objectives which in most cases probably include the enhancement of the institution's quality and reputation. Those universities which compete successfully in the organizational environment for one type of resource (state appropriations per FTE) tend to compete successfully for other types of resources as well (faculty and student quality, research grants and contracts, and endowment and gifts). Thus, good leadership and effective management are probably found in heavily regulated and autonomous universities alike.

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TABLE 1

Recent Changes in State
Regulatory Practices for Higher Education

State	Description of Regulatory Changes	Campuses Effected	References
Colorado	1981 transfer of responsibility for financial management to institutional governing boards including lump sum budgeting, local management of revenues, local authority to set tuition and other prices	All public institutions	McCoy (1983)
Connecticut	Given authority in 1981 to set tuition and locally manage tuition revenues.	University of Connecticut	Hyatt & Santiago (1984)
Idaho	1979 conversion to lump sum appropriations, local management of all revenues, and carryover of year-end balances	All public institutions	Hyatt & Santiago (1984)
Kentucky	1982 freedom from broad array of state management oversight in purchasing, budgeting, accounting, capital construction, auditing,payroll, disposition of real estate, and operation of affiliated foundations and corporations	All public institutions	Carter & Blanton (1983) Hyatt & Santiago (1984)
Maryland	1984 adoption of budgeting flexibility on transfers of funds, carryover of unexpended balances, crediting of interest income to campus, overhead cost recovery, computer purchases, and using gifts according to donor's wishes.	All public institutions	Meisinger & Mingle (1983) Hyatt & Santiago (1984)

TABLE 1
(cont'd.)

State	Description of Regulatory Change	Campuses Effected	References
Massachusetts	1983 conversion from a line item budget by campus to one of five categories submitted by reorganized governing board on behalf of all higher education in state	All public institutions	Hyatt & Santiago (1984)
New York	1985-86 implementation of flexibility measures for purchasing and contract procedures, for personnel and salary classification, for certain budgetary matters such as transfer of funds, and for dormitory self-sufficiency.	State University of New York System	Wharton (1986)
Washington	Erosion of some financial and budgetary flexibility during late 1970's and early 1980's: loss of lump sum budgeting and ability to transfer some funds among program categories, stipulation of enrollment caps, campuses no longer set tuition/fees and retain the income, state now controls indirect cost revenues	All public institutions	Hyatt & Santiago (1984) Curry & Fischer (1986)
Wisconsin	1982 reduction in some state pre-audit controls for purchases under $10,000, printing, and employee classification.	University of Wisconsin system	Lorenz (1983)

TABLE 2

CLASSIFICATION OF STATES ACCORDING TO
THEIR REGULATORY PRACTICES TOWARD PUBLIC UNIVERSITIES

	Financial Authority (1983) Centralized-------Decentralized-------Independent			
	State Agency	State Controlled	State Aided	Corporate Model
Academic Authority (1982)				
Centralized (European Ministry)	Mass. Mont. N.Car. N.Y. S.Dak. Vir. W.Va.	Ga. La. N.J. Okla. Tenn. Tex. Wis.	Ala. Ind. Kent. Miss. Mo. Utah	
Decentralized (Campus Control)	Conn. Fla. Hawaii Ill. Kansas Maryl. S.Car.	Ariz. Ark. Calif. Col. Neb. Nev. Ore. R.I. Wash. Wyo.	Del. Idaho Iowa Maine Mich. Minn. N.Hamp. N.Mex. N.Dak. Ohio Penn. Ver.	
Independent (Free Market)				

TABLE 3

CORRELATIONS BETWEEN MEASURES OF CAMPUS AUTONOMY
AND
MEASURES OF UNIVERSITY IMPROVEMENT
(N = 86)

Improvement Measures	Autonomy Measures		
	Budget	Personnel	Academic
Faculty Quality	-.06	+.07	-.03
Student Quality	-.13	+.03	+.05
Research Funding	+.15	-.08	+.11

TABLE 4

MEAN IMPROVEMENT SCORES FOR PUBLIC UNIVERSITIES
CLASSIFIED ACCORDING TO THEIR STATE REGULATORY PRACTICES
(N = 86)

	State Academic Authority	State Financial Regulation Models		
		State Agency	State Controlled	State Aided
	Centralized			
Improvement Measures	Faculty Quality	54.4	52.6	51.6
	Student Quality	9.9	10.2	10.3
	Research Funding	120.3	120.1	116.1
	Decentralized			
Improvement Measures	Faculty Quality	52.6	50.2	48.6
	Student Quality	11.1	10.3	10.0
	Research Funding	126.3	133.8	129.4

TABLE 5

REGRESSION BETA WEIGHTS FOR STATE UNIVERSITIES WHICH ARE SUPPORTED BY LOW LEVELS OF STATE FUNDING (N = 42)

Variables	Faculty Quality	Gov't. Grants per Fac.	Number Faculty Articles	% Fac. who Publish	Gov't. Grants per Stu.	Private Gifts per Stu.	Under Grad Quality
Size	.85***	.54**	.87***	.41*	-	-	.42**
Age	.30*	-	-	-	-	-	-
Constit. St.	-	-	-	-	-	-	-
Unioniz.	-	-	-	-	-	-	-
Cost of Liv.	-	-	-	-	-	.44**	-
Medical	-.34*	-	-	-	.41*	-	-.43*
Flagship	-	-	-	-	-	-	-
Flexibility							
Financial	-	-	-	-	-	-	-
Academic	-	-	-	-	-	-	-
R^2 =	.73***	.38	.76***	.31	.40*	.46**	.42*

*p < .05
**p < .01
***p < .001

TABLE 6

REGRESSION BETA WEIGHTS FOR STATE UNIVERSITIES
WHICH ARE SUPPORTED BY HIGH LEVELS OF STATE FUNDING
(N = 41)

Variables	Faculty Quality	Gov't. Grants per Fac.	Number Faculty Articles	% Fac. who Publish	Gov't. Grants per Stu.	Private Gifts per Stu.	Under Grad Quality
Size	.78***	.69***	.82***	.50**	-	-	-
Age	-	-	-	-	-	-	-
Constit. St.	-	-	-	-	-	-	-
Unioniz.	-	-	-	-	-	-	-
Cost of Liv.	-	-	-	-	-	-	-
Medical	-	-	-	-	-	-	-
Flagship	-	-	-	-	-	-	-
Flexibility							
Financial	-.37*	-	-	-	-	-	-
Academic	-	-	-	-	-	.42*	-
R^2 =	.58***	.50**	.57**	.35	.20	.41*	.28

*p < .05
**p < .01
***p < .001